

**REMARKS**

Claims 1-25 and 27-47 have been amended and claims 50-54 have been added.

Claims 1-54 are now pending in this application. The applicants' representatives is currently preparing a Supplemental Declaration in accordance with 37 C.F.R. §1.175 and plans to file this Supplemental Declaration, if necessary, shortly.

A brief description of the claim amendments and the location of support for the changes to the claims will be described in detail below. For the Examiner's convenience, a marked-up copy of the Amendment showing the current changes is provided as an appendix to this Amendment.

The applicants' representative wishes to thank Examiner Hoosain for the courtesy extended in the personal interview on August 20, 2004 and in the telephone interview on October 7, 2004. A brief summary of each of the interviews is provided below.

Prior to the personal interview, the applicants' representative faxed proposed claim amendments to the Examiner. These proposed claim amendments included features directed to the switch intelligence maintaining a call state. During the personal interview, the applicants' representative explained the term call state and distinguished the proposed claims from the applied reference. The Examiner indicated that he believed that the applied reference still read on the proposed claims. The applicants' representative indicated that he would attempt to explain the physical differences between the pending claims and the applied reference in any subsequent response. The Examiner also stated that he would be available for a subsequent interview to expedite prosecution in this case.

Prior to the telephone interview, the applicants' representative once again faxed proposed claim amendments to the Examiner. Those proposed claim amendments are very similar to the claim amendments made herein. During the telephone interview, the applicants' representatives (Frank McKiel and Glenn Snyder) explained that the switch intelligence in the applicants' invention maintains a call state in accordance with a call model. The applicants' representatives described the terms "call state" and "call model" in detail and pointed out that the call model in the applied reference resides in the switch fabric. The Examiner suggested that the clarification of certain features with respect to, for example, the switch fabric proxy service of claim 1 would overcome the cited reference. The applicants' representatives thanked the Examiner for his suggestions and indicated that they would determine whether to incorporate the Examiner's suggestions in any subsequent response.

Returning to the Office Action, claim 1 has been rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. More particularly, the Office Action states that there appears to be no support for the feature that "the uniform interface comprises a non-vendor specific interface associated with the switch intelligence", recited in claim 1 (Office Action – page 2). The rejection is respectfully traversed.

Although U.S. Patent No. 6,041,109 (the '109 patent) is believed to provide support for this feature (see, for example, col. 1, lines 63-67), claim 1 has hereby been amended to delete this feature. Accordingly, withdrawal of the rejection of claim 1 under 35 U.S.C. § 112, first paragraph is respectfully requested.

Claim 25 has been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. More particularly, the Office Action states the phrase “said plurality of application programming interfaces” lacks antecedent basis (Office Action – page 2). Claim 25, as amended, recites that the apparatus further comprises a switch fabric proxy for providing a plurality of application programming interfaces. Therefore, the phrase “said plurality of application programming interfaces” is now believed to have proper antecedent basis. Accordingly, withdrawal of the rejection of claim 25 under 35 U.S.C. § 112, second paragraph is respectfully requested.

Claims 1-49 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Wheeler, Jr. et al. (U.S. Patent 5,583,920; hereinafter Wheeler ‘920). The rejection is respectfully traversed.

As an initial matter, the terms “call state” and “call model” are used frequently throughout the pending claims. These terms will be explained briefly below, in accordance with the Examiner’s requests during the personal and telephone interviews, to afford the Examiner a more complete understanding of the pending claims.

A call model is a representation of call-processing activities for establishing, maintaining and clearing a basic call (See, for example, “Intelligent Network (IN)” by the International Engineering Consortium (IEC), Section 6 at page 9; see also, for example, Bellcore document entitled “AINGR: Switch-Service Control Point (SCP)/Adjunct Interface”, GR-1299-CORE, Revision 1, October 1988 at page 3 of the Glossary; both filed with an Information Disclosure Statement (IDS) concurrently with this Amendment). This advanced intelligent network (AIN) definition of the term “call model” is well understood by those of ordinary skill in this art.

The term “call state” indicates the progress through a series of conceptual stages or states (in a call model) that a call may be envisioned to advance through as it is requested by an originating party, is established through the network to the terminating party and is eventually concluded. In the context of a telephone originating a call, for example, call states may include null, idle, off hook, collecting information, analyzing information, routing, alerting, etc. (See “Intelligent Network” by IEC at page 10). For terminating or intermediary elements with the respect to the same call, different call states may be applicable.

In performing call processing for a call, it is important to keep track of what has transpired in a sequence of events involved in completing or otherwise handling the call. For a call processing system, keeping track of call state using some form of data model establishes a context that affects, for example, what action is appropriate at any point in time and how to interpret inputs such as DTMF tones (dialed digits) and changes in on-hook/off-hook status.

A tenet of traditional AIN implementations is the adoption of a standardized call model to which all systems must adhere to assure interoperability. Standardization of the call model was needed to assure a mutual understanding among service switching points (SSPs) and service control points (SCPs), which may be from different manufacturers or operated by different business entities. Based on the assumption of a common call model being implemented in all of the SSPs, the SSPs and SCPs cooperate to handle the more complex types of call processing tasks.

In conventional AIN, the call model resides as an integral part of the SSP because of the desire to have the SSPs autonomously handle the great majority of routine calls, to

maintain requisite call state for each call and to perform so-called “trigger detection.”

These measures to retain functions and statefulness in the SSPs are intended to minimize the burden on SCP databases, each of which must serve a large number of SSPs. Thus, involvement of SCP resources is performed sparingly and only in a request/response fashion to avoid maintaining call state at the SCP.

Therefore, “call model” and “call state” are well known concepts in this art. The conventional AIN call model, as described above (and in the “Intelligent Network” by the IEC) is one example of an instantiation of a call model. The applicants have used the terms “call model” and “call state” throughout the ‘109 patent in a manner fundamentally consistent with these concepts of call model and call state. Therefore, no explicit definition of these terms was provided in the ‘109 patent since one of ordinary skill in the art would understand these terms and concepts based on the description provided in the ‘109 patent.

Now returning to the pending claims, claim 1 recites an apparatus for decentralizing communication services in a telecommunications system comprising a switch intelligence, a switch fabric proxy service and a feature processor. Claim 1, as amended, recites that the switch intelligence provides control functions for a switch fabric, is logically separated from said switch fabric and is implemented in a separate network element from said switch fabric. Support for these features is given, for example, at col. 5, lines 57-63 of the ‘109 patent.

Claim 1, as amended, further recites that the switch intelligence is configured to process information received from the switch fabric, the information comprising a facility related event associated with a call, maintain a call state associated with completing the

call in accordance with a call model, the call model indicating how the information will be processed, identify at least one point in call associated with completing the call, and forward a request for a telecommunications function in response to the identified at least one point in call. Support for these features is given, for example, at col. 3, lines 56-67, col. 5, lines 50-56 and col. 6, lines 16-55 of the '109 patent.

The Office Action states that Wheeler '920 discloses an apparatus for decentralizing communication services that includes a switch fabric and points to central office/service switching point (CO-SSP) 13 for support (Office Action – page 3). The Office Action also states that Wheeler '920 discloses that the apparatus includes a switch intelligence and points to integrated service control point (ISCP) 40 for support (Office Action – page 3).

As purported (Wheeler '920– col. 9, lines 63-65), Wheeler '920 discloses a conventional advanced intelligent network (AIN) architecture in which calls are received at a CO, such as CO-SSP 13. In accordance with conventional AIN principles, CO-SSP 13 processes the call and may detect a trigger for a call that requires an auxiliary processing capability (Wheeler '920, col. 5, lines 35-42 and col. 6, lines 63-66). In this case, CO-SSP 13 detects the trigger, suspends call processing, compiles a transaction capabilities applications protocol (TCAP) formatted call data message and forwards the message via a CCIS link to ISCP 40. ISCP 40 then accesses its stored data tables and translates the received message data into a call control message and returns the call control message to the CO-SSP 13 via the CCIS link and signaling transfer points (STPs). The CO-SSP 13 then uses the call control message to complete, or otherwise appropriately handle, the call. For AIN calls requiring a processing feature provided by a

peripheral platform, the call control message would instruct the CO-SSP to route the call to the associated peripheral platform (Wheeler ‘920 – col. 14, lines 50-67).

From the above description in Wheeler ‘920, it is clear that CO-SSP 13 (i.e., the switch fabric) maintains the call state associated with completing the call in accordance with a call model. This can be clearly seen by a number of facts disclosed in Wheeler ‘920. For example, once the CO-SSP 13 of Wheeler ‘920 detects a trigger, the CO-SSP 13 suspends call processing (col. 14, lines 54-56). Performing processing that includes detecting a trigger point clearly indicates that CO-SSP 13 of Wheeler ‘920 maintains a call state in accordance with a call model executed by CO-SSP 13 since detecting a trigger point is part of executing a conventional basic call model (See “Intelligent Network” by IEC at Section 6). Therefore, although Wheeler ‘920 does not explicitly state that CO-SSP 13 maintains a call state in accordance with a call model, one of ordinary skill in the art would understand that CO-SSP 13 of Wheeler ‘920 performs these functions, not ISCP 40.

Furthermore, Wheeler ‘920 (col. 14, lines 50-54) describes the autonomous operation of the CO-SSP 13 “without referring to the SCP database for instructions”, referring to the well known manner of operation for processing routine calls using the SSP’s own self-contained call model. These attributes are in every way consistent with well known practices of conventional AIN technology upon which Wheeler ‘920 is based.

Claim 1, in contrast, recites that the switch intelligence is configured to “process information received from the switch fabric, the information comprising a facility related event associated with a call” and “maintain a call state associated with completing the

call in accordance with a call model, the call model indication how the information will be processed". Wheeler '920 merely discloses conventional AIN processing in which the switch fabric (i.e., CO-SSP 13) maintains the call state in accordance with a call model. ISCP 40 of Wheeler '920, alleged to be equivalent to the claimed switch intelligence, is not configured to perform these features.

Claim 1, as amended, also recites that the switch intelligence is configured to identify at least one point in call associated with completing the call, and forward a request for a telecommunications function in response to the identified at least one point in call. Wheeler '920 also does not disclose or suggest these features.

For example, the term "point in call" (PIC) is also a term well known in this art and is part of, for example, the AIN call model. A PIC generally relates to a stage in the progress of a call request or a call. Examples of PICs include "Idle" (on hook), "Collecting information" (receiving DTMF digits) and "Analyzing information" (determining how to handle call based on dialed digits). An AIN call model description often comprises PICs and, in some instances, may also include trigger detection points (TDPs) and trigger criteria. A PIC relates to a general call progress stage or state, whereas a trigger detection point defines a point at which the stage and circumstances of the call (such as digits collected so far) are reviewed to determine if SCP involvement is needed.

In general, as a phone receiver is lifted and a subscriber listens for dial tone and then begins dialing digits or performing on-hook/off-hook, a dialog is established between the subscriber and the call processing facilities of the network. The SSP initially serves as the sole call processing facility interpreting the dialog until the need for special

call processing is detected. Correspondingly, the call state in the SSP moves from an idle state to some active state and is sequenced through a series of states. Significant events in the dialog (such as on-hook/off-hook, digits dialed, etc.) cause transitions in the call state from one state to another state in accordance with the call model, i.e., the ‘roadmap’ for transitioning from one defined state to another.

The call model is the network’s representation of the dialog and the call state is the “short-term memory” of the network in keeping track of ‘where’ in the call model the dialog is currently situated. As an example of the action of a call model and of dialog statefulness on the part of the network, consider the dramatically different effects of lifting a telephone receiver and dialing each of the following:

“17195873...(wait 3 seconds)...911”

“17195873...(on-hook)(wait 3 seconds)(off-hook)...911”

“17195873...(wait 2 minutes)...911”

Referring back to claim 1 with respect to Wheeler ‘920, Wheeler ‘920 does not disclose or suggest that ISCP 40 identifies at least one point in call associated with completing the call and forwards a request for a telecommunications function in response to the identified at least one point in call, as required by claim 1.

For example, ISCP 40 of Wheeler ‘920 receives TCAP formatted call data messages and translates the received messages into call control messages that are returned to CO-SSP 13 (Wheeler ‘920, col. 14, lines 59-62). This is not equivalent to identifying at least one point in call associated with completing the call and forwarding a request for a telecommunications function in response to the identified at least one point

in call, as recited in claim 1. CO-SSP 13 (i.e., the switch fabric) actually performs such features in Wheeler '920.

For example, compare FIG. 6 of Wheeler '920 to page 10 of "Intelligent Network" by IEC. The very sending of a TCAP message from SSP to SCP as in step 2 of FIG. 6 in Wheeler '920 is prompted by the SSP when it detects that a given point in call has been attained in relation to the particular call being handled.

Applicants respectfully contend that the aspects of trigger points, call suspension, and handling of ordinary calls as described in Wheeler '920 are well known manifestations of conventional AIN practice wherein the call model, which defines triggers, points in call, etc., are maintained and expressed in the SSP. Wheeler '920 purports to be AIN-based and is indeed entirely consistent with conventional AIN in that triggers and points in call are carried out in the SSP. The lack of explicit mention of 'call model' or 'call state' in Wheeler '920 should not be surprising and should not be interpreted that there is no call model or call state in operation in Wheeler '920. Further, the simple lack of explicit 'call model' terminology in Wheeler '920 should not unfairly disadvantage the applicants and prevent the applicants from employing a meaningful and effective differentiating aspect as a claim limitation to distinguish from Wheeler '920 and other conventional AIN-based techniques that were known in the art at the time of the present invention.

Claim 1 also recites that the switch fabric proxy service provides a normalized interface between said switch fabric and said switch intelligence for communications involving said switch fabric and interfacing to said switch intelligence with a uniform application program interface, wherein the normalized interface comprises any one of a

plurality of vendor-specific interfaces associated with the switch fabric. Wheeler ‘920 does not disclose or suggest these features.

The Office Action states that intelligent peripheral (IP) 35 or 37 of Wheeler ‘920 is equivalent to the claimed switch fabric proxy service (Office Action – pages 3-4). The applicants respectfully disagree.

For example, since Wheeler ‘920 does not disclose or suggest the claimed switch intelligence, Wheeler ‘920 cannot disclose or suggest that IP 35/37, or any other device, provides a normalized interface between said switch fabric and said switch intelligence for communications involving said switch fabric and interfaces to said switch intelligence with a uniform application program interface, where the normalized interface comprises any one of a plurality of vendor-specific interfaces associated with the switch fabric, as required by amended claim 1. Further, IPs 35 and 37 of Wheeler ‘920 merely provide a service, such as providing vocal announcements associated with direct talk modules 1203A and 1203B (Wheeler ‘920 – col. 27, line 10 to col. 28, line 5 and Fig. 4). This is not equivalent to a switch fabric proxy service as recited in claim 1.

For at least these reasons, Wheeler ‘920 does not disclose or suggest each of the features of claim 1. Accordingly, withdrawal of the rejection and allowance of claim 1 are respectfully requested.

Claims 2-8 depend from claim 1 and are believed to be allowable for at least the reasons claim 1 is allowable. In addition, these claims recite additional features not disclosed or suggested by Wheeler ‘920.

For example, claim 2 recites that switch intelligence comprises facility service logic configured to represent bearer and signaling facilities of a party to the call, for

interacting with said switch fabric proxy service to communicate with said switch fabric.

Claim 2, as amended, also recites that the facility service logic is configured to receive the facility related event and perform protocol processing on the information received from the switch fabric, wherein the facility related event comprises at least one of an off-hook indication, an on-hook indication or a wink. Support for these features is given, for example, at col. 7, lines 43-54 of the ‘109 patent.

The Office Action states that Wheeler ‘920 discloses that the switch intelligence includes a facility service that represents bearer and signaling facilities of a party to a call and points to Fig. 6 for support (Office Action – page 4).

Fig. 6 of Wheeler ‘920 illustrates messages transmitted between a caller, the SSP, ISCP and IP. Wheeler ‘920 discloses that CO-SSP 13 represents bearer and signaling facilities of a party to the call. Wheeler ‘920 clearly does not disclose that ISCP 40 (alleged to be equivalent to the claimed switch intelligence) receives a facility related event that comprises at least one of an off-hook indication, an on-hook indication or a wink, as recited in amended claim 2.

For at least these additional reasons, withdrawal of the rejection and allowance of claim 2 are respectfully requested.

Claim 4, as amended, recites that the switch intelligence comprises call segment logic configured to represent a status of at least two call halves associated with completing the call in accordance with the call model, and perform call processing for each of the at least two call halves. Support for these features is given, for example, at col. 6, line 16 to col. 7, line 41 of the ‘109 patent.

Similar to the terms call state and call model discussed above, the term “call half” has a well known meaning in this art. Further, the ‘109 patent defines a “call half” as corresponding to a participating member in a call (col. 6, lines 24-29). Wheeler ‘920 does not disclose or suggest that ISCP 40 performs call processing for each of the at least two call halves, as recited in amended claim 4.

For at least these additional reasons, withdrawal of the rejection and allowance of claim 4 are respectfully requested.

Claim 5, as amended, recites that the switch intelligence comprises a call processing creation environment, where the call processing creation environment interacts with the switch intelligence for modifying the call model without modifying the switch fabric. Support for these features is given, for example, at col. 9, line 44 to col. 10, line 47 of the ‘109 patent.

The Office Action states that Wheeler ‘920 discloses a call process creation environment and points to service creation environment (SCE 42) and col. 34, lines 11-43 for support (Office Action – page 5). Wheeler ‘920 at col. 34, lines 11-43 discloses that subscriber services are set up by a telephone company technician using SCE 42 in ISCP 40. Such subscriber services may include providing a personal greeting to callers, where the personal greeting is stored on a peripheral platform (Wheeler ‘920 – col. 34, lines 19-28). Programming subscriber services via SCE 42 is not equivalent to modifying a call model, much less modifying the call model without modifying the switch fabric, as recited in amended claim 5.

For at least these additional reasons, withdrawal of the rejection and allowance of claim 5 are respectfully requested.

Claim 9 recites an apparatus comprising a switch-fabric proxy service and switch intelligence. Claim 9, as amended, recites that the switch intelligence is configured to receive information from the switch fabric, perform call processing in accordance with a call model using the received information, maintain a status of at least two call halves associated with completing the call in accordance with the call model, and direct the switch fabric to make physical connections for each of the at least two call halves to complete the call. Support for these features is given, for example, at col. 6, line 16 to col. 7, line 41 and col. 11, lines 16-19 of the ‘109 patent.

Similar to the discussion above with respect to claims 1 and 4, ISCP 40 of Wheeler ‘920 does not perform call processing in accordance with a call model or maintain a status of at least two call halves associated with completing the call in accordance with the call model, as recited in amended claim 9.

For at least these reasons, Wheeler ‘920 does not disclose or suggest each of the features of claim 9. Accordingly, withdrawal of the rejection and allowance of claim 9 are respectfully requested.

Claim 10 has been amended to improve form (i.e., “and” changed to “or” in line 2) and is believed to be allowable for at least the reasons claim 9 is allowable. Accordingly, withdrawal of the rejection and allowance of claim 10 are respectfully requested.

Claim 11 has been amended to no longer recite a switch fabric and a switch fabric proxy service. Claim 11, as amended, recites that the apparatus comprises a switch intelligence configured to receive information associated with a call from a switch fabric, wherein the switch intelligence is implemented in a separate network element from a

network element implementing the switch fabric, execute a call state machine, the call state machine representing processing of the call as at least one call segment, wherein the at least one call segment corresponds to a call half, provide an association between the at least one call segment and at least one physical device associated with completing the call, and provide connection information to the switch fabric based on the association.

Support for these features is given, for example, at col. 6, line 16 to col. 7, line 41 and col. 11, lines 16-19 of the ‘109 patent.

Similar to the discussion above with respect to claims 1 and 4, ISCP 40 of Wheeler ‘920 does not execute a call state machine, where the call state machine represents processing of the call as at least one call segment corresponding to a call half, as recited in amended claim 11. Wheeler ‘920 also does not disclose or suggest that ISCP 40 provides an association between the at least one call segment and at least one physical device associated with completing the call, as recited in amended claim 11, or that ISCP 40 provides connection information to the switch fabric based on the association, as further required by amended claim 11.

For at least these reasons, Wheeler ‘920 does not disclose or suggest each of the features of claim 11. Accordingly, withdrawal of the rejection and allowance of claim 11 are respectfully requested.

Claims 12-21 depend from claim 11. Initially, it is noted that each of dependent claims 12-21 has hereby been amended.

Claim 12 has been amended to maintain proper antecedent basis with respect to claim 11 and to recite that the network element implementing the switch fabric is coupled

to the network element implementing the switch fabric via a communications network.

Support for this feature is given at, for example, Fig. 1 of the '109 patent.

Claim 13 has been amended to merely improve form and maintain proper antecedent basis with respect to amended claim 11. Claims 14, 16, 18, 20 and 21 have been amended to recite the switch fabric proxy previously recited in claim 11. Claims 15, 17 and 19 have been amended to merely improve form.

Claims 12-21 are believed to be allowable for at least the reasons claim 11 is allowable. In addition, these claims recite additional features not disclosed or suggested by Wheeler '920.

For example, claims 14, 16, 18, 20 and 21 each recite that the apparatus includes a switch-fabric proxy service for providing a normalized interface between said switch fabric and the switch intelligence for communications involving said switch fabric. Similar to the discussion above with respect to claim 1, Wheeler '920 does not disclose or suggest this feature.

For at least these additional reasons, withdrawal of the rejection and allowance of claims 14, 16, 18, 20 and 21 are respectfully requested.

Independent claim 22 has been amended to delete the switch fabric proxy service. Claim 22 has also been amended to recite that the switch intelligence comprises processing logic configured to receive information from the at least one switch fabric, the information including a facility related event associated with a call, process the received information, maintain call states for parties involved in the call, and provide connection information to the at least one switch fabric for completing the call. Support for these

features is given, for example, at col. 6, line 16 to col. 7, line 41 and col. 11, lines 16-19 of the '109 patent.

ISCP 40 of Wheeler '920 does not maintain call states for parties involved in a call, as required by amended claim 22. Similar to the discussion above with respect to claim 1, CO-SSP 13 (i.e., the switch fabric) maintains call states in the system of Wheeler '920.

For at least these reasons, Wheeler '920 does not disclose or suggest each of the features of claim 22. Accordingly, withdrawal of the rejection and allowance of claim 22 are respectfully requested.

Claims 23-28 depend on claim 22. Initially, it is noted that claims 23-25, 27 and 28 have hereby been amended. Claim 23 has been amended to recite that the processing logic is further configured to identify at least one point in the call where a telecommunications function is required, and send a request for the telecommunications function to a processor in response to the identified at least one point in the call. Support for these features is given, for example, at col. 3, lines 56-67 of the '109 patent.

Claim 24 has been amended to improve form and maintain proper antecedent basis with respect to amended claim 22. Claim 25 has been amended to recite the switch fabric proxy previously recited in claim 22. Claim 27 has been amended merely to improve form. Claim 28 has been amended to recite that the call segment instance service is configured to maintain the call states for the parties involved in a call. Support for the features in claim 28 is given, for example, at col. 6, lines 16-55 of the '109 patent.

Claims 23-28 are believed to be allowable for at least the reasons their respective independent claims are allowable. In addition, these claims recite additional features not disclosed or suggested by Wheeler '920.

For example, claim 23 recites that the processing logic is further configured to identify at least one point in the call where a telecommunications function is required, and send a request for the telecommunications function to a processor in response to the identified at least one point in the call.

Similar to the discussion above with respect to claim 1, ISCP 40 of Wheeler '920 does not identify at least one point in call where a telecommunications function is needed. For at least this additional reason, withdrawal of the rejection and allowance of claim 23 are respectfully requested.

Claim 25 recites that the apparatus further comprises a switch fabric proxy for providing a plurality of application programming interfaces for communications between the at least one switch fabric and the switch intelligence, wherein each of said plurality of application programming interfaces comprises at least one of a vendor-specific application programming interface or a switch-fabric-specific application programming interface.

IP 35 or 37 of Wheeler '920 does not provide a plurality of application programming interfaces as recited in amended claim 25. For at least this additional reason, withdrawal of the rejection and allowance of claim 25 are respectfully requested.

Claim 29, as amended, recites certain features similar to claim 22 in means plus function form. For reasons similar to those discussed above with respect to claim 22, withdrawal of the rejection and allowance of claim 29 are respectfully requested.

Claim 30, as amended, recites certain features similar to those recited in claim 1, in means plus function form. For reasons similar to those discussed above with respect to claim 1, withdrawal of the rejection and allowance of claim 30 are respectfully requested.

Claim 31 depends from claim 30 and is believed to be allowable for at least the reasons claim 30 is allowable. Accordingly, withdrawal of the rejection and allowance of claim 31 are respectfully requested.

Claim 32 recites an apparatus comprising a switch-fabric proxy service and a switch intelligence. Claim 32, as amended, recites that the switch intelligence is configured to execute a call model to generate connection information for completing a call corresponding to a request received at a switch fabric, maintain call states for each party involved in the call in accordance with the call model, and forward the connection information to the switch fabric via the switch-fabric proxy service. Support for these features is given, for example, at col. 6, line 16 to col. 7, line 41 and col. 11, lines 16-19 of the '109 patent.

Similar to the discussion above with respect to claim 1, ISCP 40 of Wheeler '920 does not execute a call model to generate connection information for completing a call corresponding to a request received at a switch fabric. ISCP 40 also does not maintain call states for each party involved in the call in accordance with the call model, as further recited in amended claim 32.

For at least these reasons, Wheeler '920 does not disclose or suggest each of the features of claim 32. Accordingly, withdrawal of the rejection and allowance of claim 32 are respectfully requested.

Claims 33-39 depend from claim 32. Initially, it is noted that each of dependent claims 33-39 has hereby been amended.

Claim 33 has been amended to maintain proper antecedent basis with respect to claim 32, claim 34 has been amended to improve form and to recite that the network element implementing the switch fabric is coupled to the network element implementing the switch fabric via a communications network. Support for this feature is given at, for example, Fig. 1 of the '109 patent.

Claims 35, 37 and 39 have been amended to merely improve form and maintain proper antecedent basis with respect to amended claim 32. Claim 38 has been amended to improve form (i.e., change "and" to "or" at line 2).

Claim 36 has been amended to recite that that switch intelligence is further configured to maintain the call model, the call model affecting how calls received by the switch fabric will be processed and wherein the call model is modifiable at the switch intelligence without modifying the switch fabric. Support for these features is given, for example, at col. 9, line 44 to col. 10, line 47 of the '109 patent.

Claims 33-39 are believed to be allowable for at least the reasons claim 32 is allowable. In addition, these claims recite additional features not disclosed or suggested by Wheeler '920.

For example, claim 36 recites features similar to claim 5. For reasons similar to those discussed above with respect to claim 5, withdrawal of the rejection and allowance of claim 36 are respectfully requested.

Claim 40 recites an apparatus comprising a switch intelligence network element that comprises processing logic. Claim 40, as amended, recites that the processing logic

is configured to receive information from the switch fabric network element associated with a call and perform call half processing for parties associated with the call.

Support for these features is given, for example, at col. 6, line 56 to col. 7, line 41 of the ‘109 patent.

Similar to the discussion above with respect to claim 4, ISCP 40 of Wheeler ‘920 does not perform call half processing for parties associated with a call, as required by amended claim 40.

For at least this reason, Wheeler ‘920 does not disclose or suggest each of the features of claim 40. Accordingly, withdrawal of the rejection and allowance of claim 40 are respectfully requested.

Claims 41-43 depend from claim 40. Initially, it is noted that each of dependent claims 41-43 has hereby been amended.

Claim 41 has been amended to recite that the processing logic is configured to perform the call half processing in accordance with a call model, the call model representing at least one of an Advanced Intelligent Network (AIN) call model, an International Telecommunications Union (ITU) call model or a call model created by a service provider. Support for these feature is given at, for example, col. 10, lines 1-26 of the ‘109 patent.

Claims 42 and 43 have been amended to improve form and maintain proper antecedent basis with respect to amended claim 40.

Claims 41-43 are believed to be allowable for at least the reasons claim 40 is allowable. In addition, these claims recite additional features not disclosed or suggested by Wheeler ‘920.

For example, Wheeler '920 does not disclose or suggest that ISCP 40 includes processing logic configured to perform the call half processing in accordance with a call model, where the call model represents at least one of an AIN call model, an ITU call model or a call model created by a service provider, as recited in amended claim 41.

For at least this additional reason, withdrawal of the rejection and allowance of claim 41 are respectfully requested.

Claim 44 recites an apparatus comprising a feature processor and switch intelligence. Claim 44, as amended, deletes the previously claimed application programming interface. Claim 44, as amended, recites that the switch intelligence is configured to receive data associated with a call, perform call half processing associated with parties to the call, and provide connection information to an entity that received the call, wherein the connection information identifies physical connections to complete the call, wherein the switch intelligence is implemented in at least one network element, the at least one network element being a separate network element from the entity that received the call. Support for these features is given, for example, at col. 5, lines 57-63 and col. 6, line 56 to col. 7, line 41 of the '109 patent.

Similar to the discussion above with respect to claim 40, ISCP 40 of Wheeler '920 does not perform call half processing associated with parties to a call, as required by amended claim 44.

For at least this reason, Wheeler '920 does not disclose or suggest each of the features of amended claim 44. Accordingly, withdrawal of the rejection and allowance of claim 44 are respectfully requested.

Claim 45 has been amended to delete the switch fabric proxy service. Claim 45, as amended, recites that the apparatus comprises logic for processing information received from the switch fabric in accordance with a call model, logic for performing call half processing for parties involved in the call in accordance with the call model, and logic for forwarding connection information to the at least one switch fabric. Support for these features is given, for example, at col. 6, line 16 to col. 7, line 41 of the '109 patent.

Claim 45, as amended, recites certain features similar to features recited in claims 1 and 4. For reasons similar to those discussed above with respect to claims 1 and 4, Wheeler '920 does not disclose or suggest each of the features of claim 45. Accordingly, withdrawal of the rejection and allowance of claim 45 are respectfully requested.

Claim 46 depends from claim 45. Claim 46 has been amended to delete the second interface. Claim 46 is believed to be allowable for at least the reasons claim 45 is allowable. Accordingly, withdrawal of the rejection and allowance of claim 46 are respectfully requested.

Claim 47, as amended, recites that the call completion device is configured to forward a facility related event associated with a call to the switch intelligence and receive bearer connection information from the switch intelligence in accordance with a call model executed by the switch intelligence. Support for these features is given, for example, at col. 6, line 56 to col. 8, line 31 of the '109 patent.

Wheeler '920 does not disclose that CO-SSP 13 (alleged to be equivalent to the claimed call completion device) is configured to forward a facility related event associated with a call to ISCP 40, as required by claim 47. A facility related event, as discussed in the '109 patent, may include, for example, an on-hook, off-hook or wink

along with actual data received, such as DTMF digits, ISUP messages or Q.931 messages (col. 7, lines 47-58). CO-SSP 13 of Wheeler '920 does not forward a facility related event associated with a call to ISCP 40, as required by claim 47.

CO-SSP 13 of Wheeler '920 also does not receive bearer connection information from the switch intelligence in accordance with a call model executed by the switch intelligence, as further recited in amended claim 47.

For at least these reasons, Wheeler '920 does not disclose or suggest each of the features of amended claim 47. Accordingly, withdrawal of the rejection and allowance of claim 47 are respectfully requested.

Claims 48 and 49 depend from claim 47. These claims are believed to be allowable for at least the reasons claim 47 is allowable. Accordingly, withdrawal of the rejection and allowance of claims 48 and 49 are respectfully requested.

#### NEW CLAIMS

New claims 50-54 have been added. Claim 50 recites a switch fabric proxy service and is supported at, for example, Fig. 2 of the '109 patent. Claim 50 is dependent on claim 47 and is believed to be allowable for at least the reasons claim 47 is allowable. In addition, Wheeler '920 does not disclose or suggest the claimed switch fabric proxy service recited in claim 50. Accordingly, allowance of claim 50 is respectfully requested.

Claim 51 recites an apparatus comprising logic configured to receive information from an entity that received a request for making a call; logic configured to perform call half processing for a first party and a second party associated with the call;

logic configured to generate connection information for the entity that received the request; and logic configured to forward the connection information to the entity that received the request. Support for these features is given, for example, at col. 6, line 56 to col. 8, line 31 of the '109 patent.

None of the art of record discloses or suggests the features of claim 51. Accordingly, allowance of claim 51 is respectfully requested.

Claims 52-54 are dependent on claim 51. Claim 52 recites that the received information comprises facility related event information. Support for this feature is given, for example, at col. 7, lines 43-58 of the '109 patent. Claim 53 recites that the apparatus is implemented in a network element that is separate from the entity that received the request. Support for this feature is given, for example, at col. 5, lines 57-63 of the '109 patent. Claim 54 recites that the logic configured to perform call half processing maintains call states associated with completing the call in accordance with a call model. Support for this feature is given, for example, at col. 6, line 56 to col. 7, line 41 of the '109 patent.

Claims 52-54 are believed to be allowable for at least the reasons claim 51 is allowable. In addition, none of the art of record discloses or suggests the features of claims 52-54. Accordingly, allowance of claims 52-54 are respectfully requested.

**CONCLUSION**

In view of the foregoing amendments and remarks, the applicants respectfully request withdrawal of the outstanding rejections and the timely allowance of this application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 13-2491 and please credit any excess fees to such deposit account.

Respectfully submitted,

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Attachment: Appendix showing  
current changes to claims

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APPENDIX

MARKED UP CLAIMS SHOWING CHANGES MADE WITH  
RESPECT TO PREVIOUS AMENDMENT FILED AUGUST 13, 2003

1. (currently amended) An apparatus ~~for decentralizing communication services~~  
in a telecommunications system, comprising:

~~a switch fabric which provides bearer functions;~~  
a switch intelligence which provides control functions for said a switch fabric,  
said switch intelligence being logically separated from said switch fabric and being  
implemented in a separate network element from said switch fabric, the switch  
intelligence being configured to:

process information received from the switch fabric, the information  
comprising a facility related event associated with a call,  
maintain a call state associated with completing the call in accordance  
with a call model, the call model indicating how the information will be processed,  
identify at least one point in call associated with completing the call, and  
forward a request for a telecommunications function in response to the  
identified at least one point in call;

a switch fabric proxy service for providing a normalized interface between said  
switch fabric and said switch intelligence for communications involving said switch  
fabric and interfacing to said switch intelligence with a uniform application program  
interface, wherein the normalized interface comprises any one of a plurality of vendor-  
specific interfaces associated with the switch fabric ~~and the uniform interface comprises a~~  
~~non-vendor specific interface associated the switch intelligence;~~ and

a feature processor, said feature processor configured to:

receive the request for the telecommunications function, and  
execute the executing at least one telecommunications function in  
response to the received request, for interacting with said switch intelligence to provide a  
telecommunications feature.

2. (currently amended) The system apparatus of claim 1, wherein said switch intelligence further comprises:

at least one facility instance instantiated by a facility service logic using a facility model, said facility instance representing the configured to represent bearer and signaling facilities of a party to a the call, for interacting with said switch fabric proxy service to communicate with said switch fabric, the facility service logic configured to receive the facility related event and perform protocol processing on the information received from the switch fabric, wherein the facility related event comprises at least one of an off-hook indication, an on-hook indication or a wink.

3. (currently amended) The system apparatus of claim 2, wherein said switch intelligence further comprises:

a connection manager logic configured to forward connection information to the switch fabric, the connection information instructing the switch to establish physical connections to complete the call service representing the connectors for said party to a call for interacting with said switch fabric proxy service to communicate with said switch fabric.

4. (currently amended) The system apparatus of claim 3 1, wherein said switch intelligence ~~further~~ comprises:

~~at least one call segment instance instantiated by a call segment instance service logic configured to:~~

represent a status of at least two call halves associated with completing the call in accordance with the call model, and

perform call processing for each of the at least two call halves using a call model, said call segment instance representing the call logic and call data for said party to a call, for interacting with said feature processor, said connection manager service, and said facility instance.

5. (currently amended) The system apparatus of claim 2 1, wherein said switch intelligence ~~further~~ comprises:

a first call processing creation environment, said first call processing creation environment interacting with said facility service, switch intelligence for modifying said facility call model without modifying the switch fabric.

6. (currently amended) The system apparatus of claim 4, wherein said switch intelligence further comprises:

a second call processing creation environment, said second call processing creation environment interacting with said call segment instance service logic, for modifying said call model.

7. (currently amended) The system apparatus of claim 2, wherein said switch intelligence further comprises:

a ~~third~~ call processing creation environment, said ~~third~~ call processing creation environment interacting with said facility service logic[[],] for creating new facility models.

8. (currently amended) The system apparatus of claim 4, wherein said switch intelligence further comprises:

a ~~fourth~~ call processing creation environment, said ~~fourth~~ call processing creation environment interacting with said call segment ~~instance-service logic~~, for creating new call models.

9. (currently amended) An apparatus comprising:

a switch-fabric proxy service for providing a normalized interface between a switch fabric and a switch intelligence for communications involving said switch fabric by interfacing to said switch fabric with any one of a plurality of application programming interfaces, wherein the switch fabric and the switch intelligence are implemented in separate network elements; and interfacing to said switch intelligence with a uniform application programming interface

the switch intelligence, the switch intelligence being configured to:

receive information from the switch fabric,

perform call processing in accordance with a call model using the received information,

maintain a status of at least two call halves associated with completing the call in accordance with the call model, and  
direct the switch fabric to make physical connections for each of the at least two call halves to complete the call.

10. (currently amended) An apparatus according to claim 9, wherein said plurality of application programming interfaces is at least one of vendor-specific and or switch-fabric-specific.

11. (currently amended) An apparatus comprising:  
a switch fabric; and  
a switch fabric proxy service for providing a normalized interface between said switch fabric and a switch intelligence for communications involving said switch fabric;  
switch intelligence configured to:  
receive information associated with a call from a switch fabric, wherein the switch intelligence is implemented in a separate network element from a network element implementing the switch fabric,  
execute a call state machine, the call state machine representing processing of the call as at least one call segment, wherein the at least one call segment corresponds to a call half,  
provide an association between the at least one call segment and at least one physical device associated with completing the call, and

provide connection information to the switch fabric based on the association.

12. (currently amended) An apparatus according to claim 11, wherein said network element implementing the switch fabric intelligence is physically separated from said network element implementing the switch intelligence fabric and is coupled to the network element implementing the switch fabric via a communications network.

13. (currently amended) An apparatus according to claim 11, wherein the network element implementing said switch fabric intelligence is logically separated from the network element implementing said switch intelligence fabric.

14. (currently amended) An apparatus according to claim 11, further comprising: a switch-fabric proxy service for providing a normalized interface between said switch fabric and the switch intelligence for communications involving said switch fabric, wherein said switch-fabric proxy service interfaces to said switch fabric with any one of a plurality of application programming interfaces and interfaces to said switch intelligence with a uniform application programming interface.

15. (currently amended) An apparatus according to claim 14 wherein each of said plurality of application programming interfaces comprises at least one of a vendor-specific application programming interface and or a switch-fabric-specific application programming interface.

16. (currently amended) An apparatus according to claim 11, further comprising:  
a switch-fabric proxy service for providing a normalized interface between said  
switch fabric and the switch intelligence for communications involving said switch  
fabric, wherein said switch-fabric proxy service translates switch-fabric communications  
into switch-intelligence communications.

17. (currently amended) An apparatus according to claim 16 wherein said switch-fabric communications are at least one of vendor-specific and or switch-fabric-specific.

18. (currently amended) An apparatus according to claim 11, further comprising:  
a switch-fabric proxy service for providing a normalized interface between said  
switch fabric and the switch intelligence for communications involving said switch  
fabric, wherein said switch-fabric proxy service translates switch-intelligence  
communications into switch-fabric communications.

19. (currently amended) An apparatus according to claim 18, wherein said switch-fabric communications are at least one of vendor-specific and or switch-fabric-specific.

20. (currently amended) An apparatus according to claim 11, further comprising:  
a switch-fabric proxy service for providing a normalized interface between said  
switch fabric and the switch intelligence for communications involving said switch  
fabric, wherein said switch-fabric proxy service translates switch-fabric communications  
into communications defined according to a uniform interface.

21. (currently amended) An apparatus according to claim 11, further comprising:  
a switch-fabric proxy service for providing a normalized interface between said  
switch fabric and a switch intelligence for communications involving said switch fabric,  
wherein said switch-fabric proxy service translates communications defined according to  
a uniform interface into switch-fabric communications.

22. (currently amended) An apparatus comprising:  
a switch intelligence for providing control functions to at least one switch fabric,  
the switch intelligence comprising:  
processing logic configured to:  
receive information from the at least one switch fabric, the  
information including a facility related event associated with a call,  
process the received information,  
maintain call states for parties involved in the call, and  
provide connection information to the at least one switch fabric for  
completing the call; and  
~~a switch fabric proxy service for providing a normalized interface, between said~~  
switch intelligence and said at least one switch fabric, for communications involving said  
at least one switch fabric.

23. (currently amended) An apparatus according to claim 22 wherein said switch  
intelligence is one of logically separated and or physically separated from said at least  
one switch fabric, the processing logic being further configured to:

identify at least one point in the call where a telecommunications function is required, and

send a request for the telecommunications function to a processor in response to the identified at least one point in the call.

24. (currently amended) An apparatus according to claim 22 23, further comprising:

a feature processor executing the at least one telecommunications function in response to the request, for interacting with said switch intelligence to thereby provide at least one telecommunications function.

25. (currently amended) An apparatus according to claim 22, further comprising: a switch fabric proxy for providing a plurality of application programming interfaces for communications between the at least one switch fabric and the switch intelligence, wherein each of said plurality of application programming interfaces comprises at least one of a vendor-specific application programming interface and or a switch-fabric-specific application programming interface.

26. (previously presented) An apparatus according to claim 22 wherein said switch intelligence provides control functions to a plurality of switch fabrics.

27. (currently amended) An apparatus according to claim 22 wherein said switch intelligence further comprises at least one of a facility service, a call connection manager service, and or a call segment instance service.

28. (currently amended) An apparatus according to claim 27 wherein said at least one of a facility service, a call connection manager service, and or a call segment instance service ~~is distributed over a plurality of network elements~~ comprises a call segment instance service, the call segment instance service configured to maintain the call states for the parties involved in the call.

29. (currently amended) ~~A switch fabric proxy service~~ An apparatus, comprising:  
~~means for translating receiving switch-fabric communications into switch-intelligence communications;~~  
means for processing the switch-fabric communications, wherein the means for processing is configured to maintain call states for at least two parties involved in the call and generate connection information for completing the call; and  
means for translating the connection information switch intelligence communications into switch-fabric communications for use by a switch fabric.

30. (currently amended) ~~A switch fabric proxy service~~ An apparatus, comprising:  
~~means for translating switch-fabric communications into communications defined according to a uniform switch-intelligence interface; and~~

means for processing the switch fabric communications, the means for processing being configured to:

maintain call states for parties involved in a call in accordance with a call model, and

execute the call model to generate connection information for completing the call; and

means for translating the communications defined according to the uniform switch-intelligence interface into switch-fabric communications.

31. (currently amended) ~~A switch-fabric proxy service~~ The apparatus according to claim 30, further comprising:

means for translating communications defined according to the uniform interface into switch-intelligence communications; and

means for translating switch-intelligence communications into communications defined according to a uniform interface.

32. (currently amended) An apparatus comprising:

a switch-fabric proxy service that is capable of at least one of translating switch-fabric communications into switch-intelligence communications, translating the switch-intelligence communications into the switch-fabric communications, translating the switch-fabric communications into communications defined according to a uniform switch-intelligence interface, and or translating the communications defined according to a uniform switch-intelligence interface into the switch-fabric communications; and

a switch intelligence implemented in at least one network element, the at least one network element being a separate network element from a network element implementing a switch-fabric that is coupled to the switch-fabric proxy service, the switch intelligence being configured to:

execute a call model to generate connection information for completing a call corresponding to a request received at a switch fabric,

maintain call states for each party involved in the call in accordance with the call model, and

forward the connection information to the switch fabric via the switch-fabric proxy service.

33. (currently amended) An apparatus according to claim 32, wherein said switch-fabric proxy service includes a normalized interface between a the switch fabric and a the switch intelligence.

34. (currently amended) The apparatus according to claim 32, wherein said at least one network element implementing the switch intelligence is one of logically separated and or physically separated from said the network element implementing the switch fabric and is coupled to the network element implementing the switch fabric via a communications network.

35. (currently amended) An apparatus according to claim 32, further comprising a wherein the switch fabric including includes said switch-fabric proxy service.

36. (currently amended) An apparatus according to claim 32, ~~further comprising a wherein the switch intelligence including said proxy service is further configured to:~~  
~~maintain the call model, the call model affecting how calls received by the switch fabric will be processed and wherein the call model is modifiable at the switch intelligence without modifying the switch fabric.~~

37. (currently amended) An apparatus according to claim 32, wherein said switch-fabric proxy service includes an application programming interface for interfacing with a ~~the switch fabric.~~

38. (currently amended) An apparatus according to claim 32, wherein said application programming interface is at least one of a vendor-specific interface ~~and or a~~ switch-fabric-specific interface.

39. (currently amended) An apparatus according to claim 32, wherein said switch-fabric proxy service includes an application programming interface for interfacing with a ~~the switch-intelligence.~~

40. (currently amended) An apparatus comprising:  
~~a switch intelligence network element for controlling a switch fabric network element, said switch intelligence physically separate from the switch fabric and couplable to a feature processor that executes at least one telecommunications function, wherein said switch intelligence network element comprises:~~

processing logic configured to:

receive information from the switch fabric network element

associated with a call, and

perform call half processing for parties associated with the call

~~aspects of data processing required to complete a bearer request.~~

41. (currently amended) An apparatus according to claim 40, wherein said switch intelligence further comprises at least one of a facility service, a call connection manager service, and a call segment instance service, wherein said at least one of a facility service, a call connection manager service, and a call segment instance service is distributed over a plurality of network elements processing logic is further configured to:

perform the call half processing in accordance with a call model, the call model representing at least one of an Advanced Intelligent Network (AIN) call model, an International Telecommunications Union (ITU) call model or a call model created by a service provider.

42. (currently amended) The apparatus according to claim 40, wherein said switch intelligence network element includes at least one of a first application programming interface communicable with a switch-fabric proxy service and or a second application programming interface communicable with the a feature processor that executes at least one telecommunications function.

43. (currently amended) The apparatus according to claim 40, further comprising at least one application programming interface communicable between ~~said~~ at least one of a facility service, a call connection manager service, ~~and or~~ a call segment instance service and another of said at least one of a facility service, a call connection manager service, ~~and or~~ a call segment instance service.

44. (currently amended) An apparatus comprising:  
a feature processor for executing at least one telecommunications function; and  
~~an application programming interface communicating with said feature processor,~~  
~~wherein said application programming interface translates feature processor~~  
~~communications into at least one of communications defined according to a uniform~~  
~~interface and switch intelligence communications switch intelligence configured to:~~  
receive data associated with a call,  
perform call half processing associated with parties to the call, and  
provide connection information to an entity that received the call, wherein the  
connection information identifies physical connections to complete the call, wherein the  
switch intelligence is implemented in at least one network element, the at least one  
network element being a separate network element from the entity that received the call.

45. (currently amended) An apparatus for coupling at least one switch fabric having a control interface to at least one switch intelligence for controlling the a switch fabric, the switch intelligence ~~apparatus~~ being physically separated ~~implemented in at~~

least one network element, the at least one network element being separate from the switch fabric, the apparatus comprising:

logic for processing information received from the switch fabric in accordance with a call model,

logic for performing call half processing for parties involved in the call in accordance with the call model, and

logic for forwarding connection information to the at least one switch fabric a switch fabric proxy service including a first interface communicable with the switch fabric, the first interface being compatible with the switch fabric control interface, and a second interface communicable with the switch intelligence by which the switch intelligence controls the switch fabric.

46. (currently amended) The apparatus of claim 45, further comprising:  
interface logic including a first interface for communications between the apparatus and the switch fabric wherein the second interface is an application programming interface accessible to processes running in a computing environment of the switch intelligence.

47. (currently amended) An apparatus, comprising:  
a call completion device for providing bearer functions, said call completion device performing communications with a switch intelligence that is separated implemented in a separate network element from said call completion device, the call completion device being configured to:

forward a facility related event associated with a call to the switch intelligence,  
and

receive bearer connection information from the switch intelligence in accordance  
with a call model executed by the switch intelligence.

48. (previously presented) The apparatus of claim 47, wherein the switch intelligence comprises a call state model, and wherein the call completion device communicates with the switch intelligence to affect a call state.

49. (currently amended) The apparatus of claim 48, wherein the call state is represented in the call state model.